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ABSTRACT

Collected here are symposium reports addressing the dissemination of theory and research to educational practitioners, specifically considering the National Diffusion Network (NDN) as an example of effective information delivery. An introductory theoretical review by C. M. Achilles of the state-of-the-art in dissemination poses questions for research, development, training, technology, evaluation, and future prospects. The second paper by Gary Peevely examines aspects of two basic types of dissemination delivery systems: the field or user-driven system that passively responds to consumer inquiries and relies on the continued use of its products for viability, and the product/producer-driven system relying on the development of new products that are actively sold to consumers. The organization and roles of dissemination agencies are analyzed in the third report by M. I. McConnell. Major factors in the development of an agency's structural configuration are funding sources, the client's knowledgeability and needs, and the agency's objectives. A potential expanded role for institutions of higher education in a producer-driven dissemination system is delineated in the fourth paper by I. L. King. The final report by M. N. Lintz outlines information for project developers/demonstrators and trainers as disseminators, including the NDN process of adopting a project as an exemplary program and selection and certification procedures for project trainers. (MJL)

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Report of a Symposium

PERSPECTIVES ON DISSEMINATION AND KNOWLEDGE UTILIZATION

Presented 11/80 to

The Mid-South Educational Research Association

C.M. Achilles
I.L. King
M.N. Lintz
M.I. McConnell
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Prepared and compiled into report format 11/83

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FORWARD

The National Diffusion Network (NDN) is a successful vehicle for the dissemination of infcrmation about exemplary educational projects that work. The NDN has primarily been "practitioner oriented:" it has incorporated those practitioner ideas that have been evaluated as successful (validated), and has been less interested in the theoretic aspects of either the projects it disseminates or its own operations. It has been a matter of degree or emphasis--the NDN chose to focus on the needs of practitioners and minimize esoteric research or the theoretic. NDN's interest is to help teachers improve, not to produce documents or reports; it is action oriented. However, in recent years, there has been a move toward more theoretic understanding of the NDN and its activities. This seems to have occurred for several reasons, including more involvement of institutions of higher education (IHEs) in the work of the NDN. In addition, there has been new research in dissemination and educational change, and when these results have seemed applicable to NDN activities, there has been an attempt to incorporate them.

Several other points seem noteworthy. There are many competing dissemination systems being established. There is an increased emphasis on inservice training of teachers, and a recognition by IHEs of the need to improve preservice programming. There is also a need to find "scientific" ways to add to and delete from the bank of Educational Programs That Work which the NDN disseminates.

The material presented here constitutes one attempt by several persons associated with the NDN to express some ideas and concerns and relate them to practice and theory. Most views represented in these papers contain an IHE bias since the persons whose views are expressed have been or are associated with IHEs. These materials, in the most part, attempt to raise questions rather than provide answers, and to offer new ways to view or study some things that have been going on in the NDN.

The papers constituted a symposium presented at the Mid-South Educational Research Association (MSERA) Conference held in New Orleans in November, 1980. The symposium was an attempt to address the serious question of the best or most efficient ways to get research results into educational practice. The NDN was used as a successful example of delivering research into the hands of practitioners, and the participants discussed ideas of why they believe that the NDN "works". These reasons were related to some things that are known from research and theory, and then participants offered some speculations about future directions.

The papers are to be seen in two ways. First, they explicate some views of NDN practitioners. Second, they could become a base for discussion and review of NDN procedures. Although the NDN is practitioner oriented and should remain that way, the paper suggests that now is the time to start to review some of NDN activities in terms of what we know (or don't know) about theory in the areas of communication, dissemination, and educational change. A case is made for more involvement of higher education.

GLOSSARY OF ABBREVIATIONS

These abbreviations are used throughout this publication. If the term is not in general usage, a definition of the term is also provided.

D/D. Developer/Demonstrator. A person or agency that has developed an exemplary project, had the project validated, and is disseminating that process or product through the NDN.

DER. Division of Educational Replication. Unit in the Department of Education that manages and monitors the NDN, among other things.

ESP. Education Service Provider. Any public or private, profit or non-profit agency or organization responsible for providing education services.

IHE. Institution of Higher Education.

IVD. Identify/Validate/Disseminate. State process for validating exemplary projects.

JDRP. Joint Dissemination Review Panel. National validating body for exemplary "programs that work."

LEA. Local Education Agency.

NDN. National Diffusion Network.

NIE. National Institute of Education.

SEA. State Education Agency. Legal and formal agency which governs education (at least k-12) in a state.

SF. State Facilitator. The NDN "connection" in each state that is the linking agent between D/Ds (Nationally) and ESPs in that state.

TA. Technical Assistance.

TAB. Technical Assistance Base (of the NDN).

PERSPECTIVES ON DISSEMINATION AND KNOWLEDGE UTILIZATION

A Report of a symposium presented at The Mid-South
Educational Research Association (11/80)

INTRODUCTION AND STRUCTURE OF SYMPOSIUM

Delivery of education programs, services and support has become more difficult and important. Agencies, roles, responsibilities, problems, technologies, social demands, R & D products, (etc.) have been proliferating. New delivery systems and strategies have been suggested. Dissemination is important as a first step in a change process -- you must know about alternatives before you can choose among them. What is the current status of dissemination? But dissemination is only a first step. The use of new knowledge -- programs and processes -- is a major concern. How are dissemination and knowledge utilization related?

In 1975, then-Commisioner of Education, T. H. Bell stated: "Educational R & D got way out ahead of its ability to deliver some 10 to 15 years ago and the delivery system is still running considerably behind.[2]" This is still the case. Funding and programs have since been directed at improving dissemination and knowledge utilization; e.g., the user-driven ERIC and the producer-driven National Diffusion Network (NDN). Federal initiatives have encouraged educators to use R & D results and have caused some new roles, concepts, and strategies to support regular instructional programs. This symposium examines the state-of-the-art in dissemination by 1) reviewing the knowledge base; 2) discussing implications for research, development, technology, training, evaluation, etc., and 3) suggesting some projections. Five general topics provide structure: 1) introduction and theory, 2) delivery systems, 3) organizational aspects, 4) higher education roles, 5) the role of training. (Figure 1 shows the structure).

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[1]Other terms are also used to describe these phenomena: e.g., technology transfer, change agency, diffusion, adoption.

[2]T. H. Bell, "Educational Research and the Public Interest," Address at 1975 AERA meeting, Washington, D.C. (3/75) as reported in Educational Researcher, IV, 6 (June, 1975).

Topic	"Knowledge Base"		Implications For:						
	Role and Function	Antecedents and Current Practice	Research	Development	Training	Technology	Evaluation	Other	Projections...
I. Introduction: Directions & Theory									
II. Delivery Systems: User Driven/Producer Driven, etc.									
III. Intermediate Functions: SF/TA/ SEA/Regionalism									
IV. IHE									
V. Demonstrator/ Developers and Certified Trainers as disseminators									
Discussion									

Figure 1. General Structure of Symposium: "New Perspectives on Dissemination and Knowledge Utilization"

PERSPECTIVES ON DISSEMINATION AND KNOWLEDGE UTILIZATION: ANTECEDENTS, DIRECTIONS, AND THEORY*

Some Antecedents

The role and function of dissemination traditionally have been to "spread the word." In 1976, the Dissemination Advisory Group (DAG) suggested a definition of dissemination which included "spread, exchange, choice and implementation." The 1977 Dissemination Forum supported this view. Although dissemination is primarily a communication function, educators and policy makers have been concerned with dissemination's relationship to the improvement of educational practice. As such, it has been related to linking processes, change, technology transfer and knowledge utilization. Seminal works by numerous writers and recent research (see References section for some examples) have laid the groundwork for current efforts in dissemination. Achilles and Norman (1974) suggested relationships between stages of change process and communication theory. Dissemination's relationship to early steps in change was discussed. (Figure 2). The initial conceptualization has been expanded to facilitate management and encourage evaluation (Figure 3. This model appears in several proposals for Tennessee NDN activity). This three-stage working model has support in current works such as Rand (1976) and Increasing The Impact (1980).

There has been much research and theorizing about dissemination. A major concern for policy makers is how to get results of R & D efforts into the hands of practitioners. Dissemination is the primary vehicle. There have been numerous delivery systems. These include both user-driven and producer-driven systems, and some which are not so easy to classify.

There has been research to study and programs to employ various organizations in educational dissemination systems. Some of these organizations include intermediate units, the State Education Agency, regional approaches, use of outside agencies such as consultant firms, and organizations mandated by the federal government such as the Labs and Centers. Each has met with varying levels of success.

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STAGE OF CHANGE Process (Message)	FACILITATORS (Transmitters)	CHANNELS OF COMMUNICATION	AUDIENCES (Receivers)
AWARENESS, INTEREST DISSEMINATION	University, SEA, Fed. personnel; special consultants; representatives from model programs; R&D specialists.	Conferences, professional journals, printed materials, audio-visual presentations, displays, tours of model programs. One-way and mass communication.	Broad groups of teachers, administrators and members of power structure (school board, government, etc.)
EVALUATION, TRIAL DEMONSTRATION	SEA specialists; personnel from regional colleges and universities; LEA training specialists from outside immediate area.	Demonstration of new practices, small group workshops, university problem courses and field-based courses, inservice interest groups, competency-based mini-courses, teacher exchanges.	Small groups in school setting where possible with emphasis on leaders of informal organizations and opinion leaders.
IMPLEMENTATION (adoption or institutionalization and leading to Diffusion) DIFFUSION	LEA specialists from similar but not nearby systems; diffusion specialists from exemplary programs; field professors; special consultants; local opinion leaders.	One-to-one help in target person's work situation; face-to-face sessions stressing two-way communication. (Essentially a coaching function.)	Individuals or small work groups (two or three persons). Role-alike group.

Figure 2. A PROPOSED CHANGE/COMMUNICATION MODEL TO INCREASE THE PROBABILITIES OF DIFFUSION OF NEW IDEAS, PRACTICES OR MATERIALS (ACHILLES AND NORMAN: 1974. MODIFIED)

	ELEMENTS OF COMMUNICATION			MANAGEMENT/EVALUATION STEPS		
Stage of Change Process (Messages) (1)	Facilitators (Transmitters) (2)	Channels or Processes (3)	Audiences or Target (Receivers) (4)	Purpose (5)	Results Action/Taken (6)	Evaluation: Methods/Outcomes (7)
DISSEMINATION: Awareness Interest (Initiation: Mobilization) Knowledge						
DEMONSTRATION: Evaluation Trial (Implementation) Persuasion and Decision						
DIFFUSION: Adoption or Adaptation (Incorporation) Confirmation						

Figure 3. Communication/Change Matrix Relating Communication Theory and Change Process as a Basis for Categorizing Dissemination Activities. Columns 5-7 --- and additional ones that might be added -- will provide direction and assist in analysis of data. Terms in () are from RAND (Berman and McLaughlin), terms underlined are from Rogers (1962), and other terminology is Rogers and Shoemaker (1971). The basic model is in Achilles and Norman (1974). The expanded version is in several Tennessee State Facilitator Project (TSFP) proposals and in several later replication and change models.

Institutions of higher education have been interested in dissemination primarily through their teaching activities. Only recently have IHEs entered dissemination networks in any formal way, and arrangements are still evolving.

Much dissemination has been "external" to the usual education system. There has been considerable use of "outsiders" and the advent of new organizations or networks. For example, the NDN, although not closely connected with IHEs, is nevertheless becoming a potent force for in-service education. There are links between the NDN and Teacher Centers and other Federal programs. These evolving relationships provide interesting arrangements and some concerns.

This state-of-the-art in dissemination provides numerous implications for the improvement of educational practice. Some interfaces include research, development, training, technology, and evaluation, among others. A few suggestions and/or t[illegible]cs for each heading are listed below. (suggestive, not exhaustive). The discussion presumes, probably naively, common usage or understanding of terms used.

Research

There is a need for clear distinction between dissemination and diffusion and a need to study both elements. Studies could help educators understand how better to reach the people who can use the results of educational R & D. We should analyze the impact of various dissemination systems, and the efficiency and effectiveness of differing dissemination modes. How can we link knowledge producers with knowledge users more effectively? Will it make any difference, anyway?

Development

Dissemination as it currently is practiced is primarily cognitive and left-brain oriented. There is a compelling need to develop dissemination systems which will be more pervasive and make better use of media. Dissemination processes might be matched with personal learning styles and modes. There are needs for the development and testing of new structures or systems of dissemination.

Training

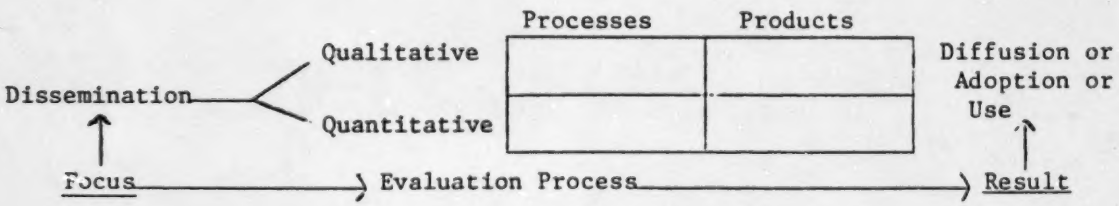
Since dissemination plays a crucial function in the use of educational products, there are many areas for training. There might be training programs for dissemination specialists, for those conceived of as "linkers," or for those who can span boundaries between and among diverse institutions. The relationship and importance of dissemination to educational change have been established, and it seems that programs to train persons to become change agents through skillful use of dissemination practices would be welcomed. This is certainly true for building-level administrators (principals).

Technology

Under the heading of technology come recent advances in such things as compressed speech, right and left brain functioning, laser-beam transmission, satellites and numerous other things. Improved and innovative use of technology will advance dissemination and the delivery of dissemination services.

Evaluation

Dissemination and dissemination systems have not been thoroughly evaluated. Several levels of evaluation are appropriate, and it also is appropriate that there be some analyses (for policy purposes) to determine if investments in dissemination are paying off in improved education practices. At one level, dissemination should be evaluated to see if it is efficient. That is, does dissemination lead to implementation of educational products and practices? At another level, there is need to determine if implementation of new products and practices leads to changes in teacher and/or pupil behaviors.



Projections and Ideas

Progress in educational dissemination suggests several projections. We need to seek and test new models of educational dissemination. Perhaps we should relate dissemination practices to what we know about personal learning styles and initiate dissemination efforts with delivery modes other than the traditional written or spoken word. We might identify dissemination practices and strageties in accordance with what is known about right and left brain specializations, and identify these with new dissemination modalities. (See Figure 4). Notice that many cells in the matrix have not been addressed.

Figure 4 suggests 1) that there are different learning styles and differing brain hemispheric specializations and 2) that dissemination as now practiced relies most on oral/aural, left-brain, single-channel modes. How can dissemination systems expand to use more of what is known about media, learning styles, etc.?

Characteristics of Hemispheric Functioning

Hemisphere Reliance

LEARNING STYLES	COGNITIVE LEFT SEQUENTIAL	COGNITIVE LEFT LOGICAL	AFFECTIVE RIGHT INTUITIVE	AFFECTIVE RIGHT SPONTANEOUS	?	PSYCHOMOTOR OR CONATIVE
I PRINT-ORIENTED	XX	XX				
II AURAL	XX	X				
III ORAL (INTERACTIVE)	X	X	X(?)			
IV VISUAL			X(?)			
V TACTILE (HAPTIC)						
VI GUSTATORY/ OLFACTORY						
VII MOTOR (OTHERS?)						

Cognitive Basically Left

Both

Affective Basically Right

Figure 4. A seminal model for innovative expansion of dissemination modalities. (xx=frequent use; x=some use.) Basic table taken from discussions between C.M. Achilles and Russell L. French, University of Tennessee, Knoxville.

The information explosion is upon us. We must identify people who will, in effect, serve as "censors." These people will understand what information is needed, and will have a broad, general grasp of what is being produced (The results of R & D). They will then process or match 1) what is needed, with 2) what is available, and 3) engage in "selective dissemination of information." In this way, they can help potential users target the information necessary. This is a demanding task requiring a broad, general knowledge base. (Difficult in this age of specialists). This may be a synthesizing function.

Perhaps the pendulum is swinging back and more of the "insiders" in the educational system will be employed in educational dissemination, rather than the recent reliance on and use of external agents (e.g., new systems and consulting firms). Reliance on external agents has not proven efficient or effective, but it was a natural response to the slowness with which the internal groups were moving in the implementation of new ideas in educational practice.

We are learning more about how change comes about in schools. Perhaps we can incorporate this knowledge in how the dissemination systems and processes will work.

DISSEMINATION DELIVERY SYSTEMS*

Two basic types of dissemination systems have evolved and been classified. These are designated as: 1) field or user-driven and 2) product/producer-driven. A field-driven system must rely upon its receptivity and continued use of its programs, products, or practices by large or increasing numbers of persons, agencies, etc. It is a passive system that simply responds to inquiries and uses of consumers. A product or producer-driven system is one that basically relies upon the advent of new or different products (i.e., programs, information pieces, etc.) for its viability. The product/producer-driven system, while needing a consumer, also becomes cyclic in nature in that it requires increased consumer/contributor interaction for its longevity. It is active in the sense that the producer attempts to "sell" the product through a variety of techniques.

Many product-oriented (driven) systems arise from a grass-roots origin of service to the field via the product--in essence they are field-initiated. The metamorphosis comes, by and large, by virtue of funding agencies which are more accustomed to funding a product as opposed to a process, and which usually are compelled to gain control. The field-driven/field-initiated system usually has its flow of communications and influences from the bottom up, that is, from the grass roots to the bureaucracy. One example would be various policy boards of teacher centers which are comprised of service consumers.

In order for a user-driven system to progress or remain active in its endeavors, the person/agency at the apex of the pyramid (Figure 5) must appropriately articulate the processes and purposes of such a system, how it might benefit the user, and how it might move forward. Metamorphosis from field/user to product/producer-driven system comes when those at the apex of the pyramid lack training, experience and expertise to lead a field-driven (process-oriented) system adequately; the emphasis, therefore, turns to products of that system rather than the processes. In this manner, many producer/product systems have emerged. (See Figure 5).

The concepts of user-driven and producer driven systems are briefly viewed through the topics of: research, development, training, technology, evaluation and projections. These comments are not inclusive; they are designed to initiate discussion.

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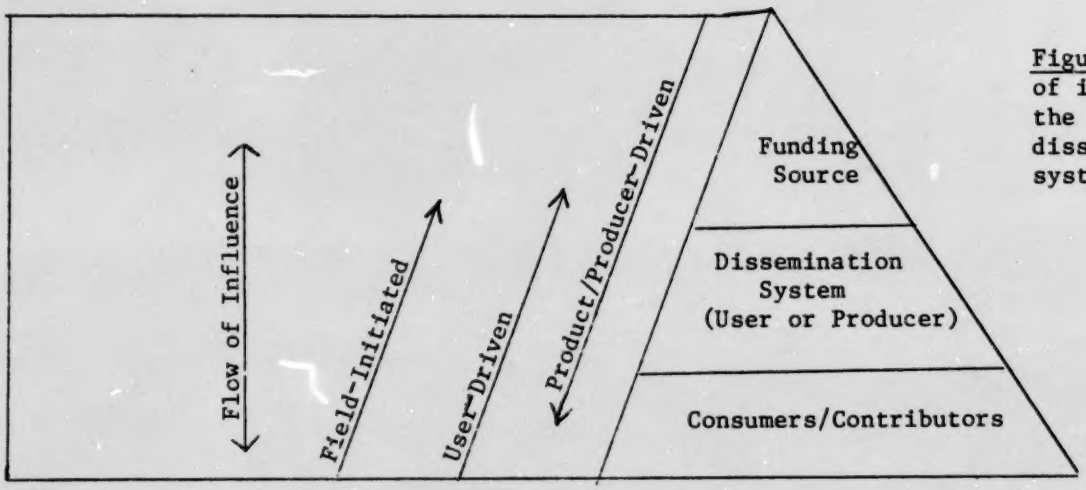

Figure 5. Flow of influence in the "driving" of dissemination systems.

Research

Research of user-driven/producer-driven systems has been meagre at best. There is a need to determine quality applications and appropriate settings for various kinds of dissemination systems. The impact of product-oriented systems such as those within NIE remains largely indeterminable. Research is also needed to ascertain the best (most appropriate) hardware and software for each delivery system. (What will the consumers of the systems feel most comfortable with and use)?

Development

The producer-driven system of dissemination attempts to make great use of interpersonal communication; user-driven systems seem to rely more on intra-personal communication. (This assertion, indeed, could use some researching). The prevailing belief among disseminators in producer-driven systems is that the key to success is personalization which would seem to be a spoke connecting the system to its consumers. The user-driven system also relies upon communication modes to deliver information, but these communication modes are different. They are mass-media techniques and impersonal. There is a pressing need to develop more fully the expertise of those disseminators involved with both user and producer-driven systems and relate the studies to theoretic aspects of communication.

Training

There has been very limited training for persons entering into either type of dissemination system or for those who intend to utilize such systems (or for whom the systems were intended). There is need for curricula for training both those who are involved in dissemination and those who are real or potential uses of such systems. Most persons who are disseminators, i.e., facilitators, developer-demonstrators, etc., usually become disseminators in a serendipitous manner and then learn on-the-job. Furthermore, the inservice training of such persons has not proliferated across systems. It might be one role of IHEs which are actively involved in dissemination activities to assume leadership in the development and implementation of dissemination-related curricula.

Technology

The application of state-of-the-art technology toward the delivery of information has fallen far behind in education. Commercial use of applied technology for the transmission of video, audio (interactive transmissions) and data long ago surpassed most who are involved in application of technology in education R & D. The community satellite network (CSN) of the University of Kentucky now has nationwide capability for the dissemination of programs and practices. This network is tied into home cable-TV across the continental U.S. presenting a great potential for users to access a dissemination system.

Those who are actively involved in dissemination, especially within user-driven systems, must seek more advantageous and parsimonious ways of increasing their service delivery potentials via use of applied technology.

Evaluation

The evaluation of various user and producer-driven systems should make the appropriate distinctions of evaluating processes and products. Evaluation of user-driven systems should focus primarily on product and secondarily on process; the reverse is true for producer-driven systems. Although the system itself can be evaluated on its effectiveness in dissemination activities, the evaluation should hub on the prevailing philosophy - to disseminate a product (usually developed by the disseminator) or to be involved in the process of dissemination (of multiple products of various origin).

The evaluation of dissemination systems in the future must also come to grips with different questions, such as: Who is the learner in this setting -- those teachers who utilize the project, program, etc. or those teachers/students who gain by exposure to the project, program, etc.? Could such use be mutual benefit? Similarly, evaluation might question the appropriateness of a product for a particular system.

Projections and Ideas

According to Harkins, the public and private schools of the nation are the only institutions which bring together so many persons into similar settings for so much time at such cost and the use of so much energy (Harkins, 1980).

With the prevailing economic restraints it would enhance our positions as disseminators to seek and research better applied systems for the delivery not only of programs, projects, and practices (via inservice training) but also the systematic delivery of information. We must begin to "tune in" on the vast knowledge of the "new media" and plan for their utilization in an educational dissemination context. We should relate dissemination to change theory and practice. (e.g., Achilles and Norman, 1974). Modes of communication-- mass or one-to-one--should be related to the purposes of dissemination.

AGENCY CONFIGURATIONS AND DISSEMINATION ROLES: SEA, INTERMEDIATE AGENCY, STATE FACILITATORS, TECHNICAL ASSISTANCE*

Characteristically, federal, state, intermediate or local institutions which serve large and diverse populations have multi-faceted policies or management schemes for the interactive process called dissemination. For example, there are over 200 separate dissemination activities operated or funded by the federal government. Each agency uses uniqueness of clientele as a rationale for designing and funding its own dissemination structure. The variety of dissemination structures implemented by agencies indicates creativity and imagination among staffs trying to exert leadership for educational change and who have deep appreciation for the functional levels of their constituencies. Among educationally oriented governmental bodies concerned with the spread of information leading to educational improvement there is a fundamental configuration. That configuration has many forms but normally it is manifest in the funding of activities by identified groups to perform specific dissemination processes for identified clientele.

There are many methodologies, strategies, activities, and processes that are mechanistic in nature; some have been borrowed from the private sector. Dissemination processes whether seen as products or ideas, have been developing even since the first producer discovered a surplus that could be exchanged for something s(he) or family wanted or needed.

Recent dissemination activities have added significantly to that body of knowledge in three ways. First, people began to study the processes by asking questions about kinds and quality of methodology. Second, there has developed a body of knowledge about the persons who are the targets of dissemination activities. So much so, that commerical information disseminators, such as radio, can describe the particular audience that they reach or program for, with a high degree of accuracy. Third, some delivery systems have become highly technological in nature and are themselves subject to study. Investigation into methodologies, audiences, and mechanics of dissemination continues to expand. Groups concerned with the improvement of educational practices have devised structures and configurations for organizing the methodologies and activities for the delivery of information and for obtaining client feedback.

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The National Diffusion Network (NDN), funded by the Department of Education, promoted educational change by encouraging education service providers (ESP) to adopt and/or adapt validated programs developed by other ESPs. The basic premise is that it is less expensive to fund an organization which assists ESPs in adopting or adapting than to fund individual ESPs continually to develop similar solutions to the same types of educational challenges.

The NDN is a sharing configuration with five sets of interactive groups. First is the Joint Dissemination Review Panel (JDRP) which, by comparing ESP data against its established criteria, validates an ESP program. Another actor is the ESP which has had a program approved by JDRP, thereby gaining the status of Demonstrator/Developers (D/D). D/Ds function as trainers and technical assistance providers for other ESPs that adopt or adapt the validated program. Third are state facilitators (SF) who promote the availability of JDRP-approved programs as a cost effective means of educational improvement within a specific geographic region. (Each state sets its own configuration for SP activity). Fourth is the Division of Educational Replication (DER), Department of Education. The DER manages the NDN and provides technical assistance to SFs and D/Ds. The DER role is accomplished through direct monitoring, collection of data and establishment of activities through funding processes. The fifth component of the NDN is the adopting ESP (school or district or other agency). The NDN is a sharing and service configuration which recognizes that ESPs of each geographic area are different and have different needs. The NDN recognizes and promotes differentiated delivery systems based on organization and need in each state. The major responsibility for dissemination rests on the SF but the processes and activities are not proscribed by DER. The important factor in the several states is that the configuration for service delivery is interactive and person-to-person, and not mechanically based.

The recognition of the diversity of ESP needs and a person-to-person service delivery configuration lead to a potentially significant weakness of the NDN. People are different and may not always make the best decisions. This can lead to a wide discrepancy of services offered and delivered. There are not guidelines which mandate or require specific activities.

Another potential weakness of the NDN is the apparent inability to establish a unified clientele. NDN services are available to <u>all</u> ESPs, which may include correctional institutions, military, public and private elementary and secondary schools, vocational schools, Federal projects, higher education institutions,

mental health agencies, human service agencies, hospitals, preschools, alcohol and drug abuse centers, runaway shelters, day care centers and adult learning programs, etc. The lack of a single, cohesive, articulate and vocal clientele continues to inhibit NDN growth.

State Education Agencies (SEA)

The SEAs have diverse structures for dissemination. One is the decentralized service delivery system where human and mechanical information delivery modes are placed in designated geographic areas. A second approach stems from funding processes such as the competitive application for categorical funds and the use of Title I, Title VII or special education monies to adopt or adapt NDN or state-validated programs. A third structure is supported by National Institute of Education (NIE) -- Capacity Building grants which provide direct information, solicited and unsolicited, to public school systems. In addition, many states use some form of consultant delivery model for both dissemination and technical assistance needs of public schools. The consultant model is used for technical assistance in some SEAs such as Department for LEA service (Illinois), Division of Instruction Services (Texas) or Curriculum and Instructional Service (Tennessee).

Project C.I.T.E. (Coordinating Information for Texas Educators) utilizes a manual and electronic retrival process in conjunction with a field contact person (linker) located in each regional education service center. Project Support (Tennessee) operates a manual and electronic retrival system with mechanical access in a central location (Nashville) and localized access in SEA regional offices. This developmental system plans to have electronic retrival modes in each LEA. A major difference between projects CITE and Support is that CITE has a field person/linker to interface between client and retrival (a combination of user and producer-driven). Project Support is a client-access process in which the client goes to the system's terminal and operates the retrival system. (User-driven).

One weakness in SEA dissemination processes seems to be the variety of communications channels. Each unit within the SEA seems to have its own contact within the LEA and interaction beyond that contact may or may not take place. For any number of reasons, (lack of funds, shortage of personnel) the "trickle down" or ripple effect concepts may not work within a system receiving services. Indeed, an ESP may not know the access point for specific information needed from the SEA.

Intermediate Agencies or Education Services Agencies

Since the 1960's a new structure for assisting with educational improvement has emerged, the Education Service Agencies (ESA). There are three general categories: (Stephens Associates, 1979)

Type A: Special District ESA - a legally constituted government sitting between the state education agency (SEA) and a collection of LEAs.

Type B: Regionalized SEA/ESA - a regional branch of the SEA.

Type C; Cooperative ESA - a loose consortium of LEAs.

A primary goal for most ESAs is to assist LEAs, which they serve, in the improvement of education. The reason for establishing the ESA, however, is a prime variable in its effectiveness as a dissemination center. Type A, a special district, has two masters to serve. One is the school systems that make up its service constituency which, through board or committee, influence the policies and procedures of the ESA. The other is the SEA which, as the body that empowered the ESA existence, expects assistance in implementing state policies and regulations. The clientele and member school systems must view ESA services as supportive and worthwhile if the Type A ESA is to grow and develop. Type B, regionalized SEA, must operate to some degree as a regulatory agency. This may hinder its credibility and consequently its effectiveness as a disseminator of information for educational change. Type C, the cooperative ESA, must address the needs of its membership and hesitate to assume an instructional leadership role by disseminating information not requested by clients.

Other factors which may act as constraints upon ESAs are (Levis, 1979)

1. External events such as inflation, collective bargaining, declining enrollment and desegregation/integration issued.
2. Underdeveloped and undeveloped political relationships.
3. Power-sharing and ineffective communications.
4. Lack of a well-developed system of accessing educational needs.
5. Confusion about roles and functions.

The opportunity for ESAs to be prime vehicles for dissemination rests on an assumption of good interaction with local ESPs. The ESAs work with a small, defined clientele and the potential exists for ESA staff interaction at many points in the LEAs. The key rests on the ability of the ESA to develop and maintain an open internal information system. The same inhibitors found

in the LEA or SEA may exist in the ESA. The more the ESA is structured along function lines such as computer services, special education, compensatory education or bilingual education, the more important it becomes to develop internal processes or structures for information exchange. One configuration for the internal dissemination model might be an adaptation of the "linker model" developed for use in Region I Education Service Center, Edinburg, Texas. (Figure 6)

Other Configurations for Dissemination

Appalachia Educational Laboratory (AEL) Educational Services Office (ESO) uses the State Consultant Model (SCM) as the structure for delivery of service to its constituent states. Dissemination is provided mainly through the Regional Exchange (RX). In an effort to maximize staff and service, AEL surveyed and found that AEL/RX clients wanted: (Sanders, 1980)

1. Accessibility to AEL staff
2. Clear communication channels
3. Increased visibility of AEL in SEAs
4. Availability of on-site technical assistance from AEL
5. Expansion of information services available from AEL

Three strategies to meet these criteria were reviewed by AEL staff: 1) Program specific staffing, 2) matrix management and 3) assignment to specific states across programs. The latter, call State Consultant Model (SCM), was selected. It has the main advantage of assigning consultants to states rather than to programs and it gives clients a single source communication contact and clearly established communication channels. (See Figure 7 for AEL/SCM model.)

Figure 8 is a proposed model for the development of a dissemination/training structure for expanding availability of state and national-validated programs through IHEs. (McConnell and Achilles, 1980). The configuration has a person-interactive design which establishes need sensing, product identification and implementation linkages. The "person" involvement is a major strength, but the time necessary to develop and implement the model is a severe drawback.

The Technical Assistance Brokerage (TAB) group which provides support services to the NDN has used a service configuration based on client specific and client general needs. Through offices called Regional Service Units (RSU) information is disseminated to geographically determined sets of clients. TAB seems to be moving from a highly individualized regional service delivery structure to a national strand mode which addresses general client needs.

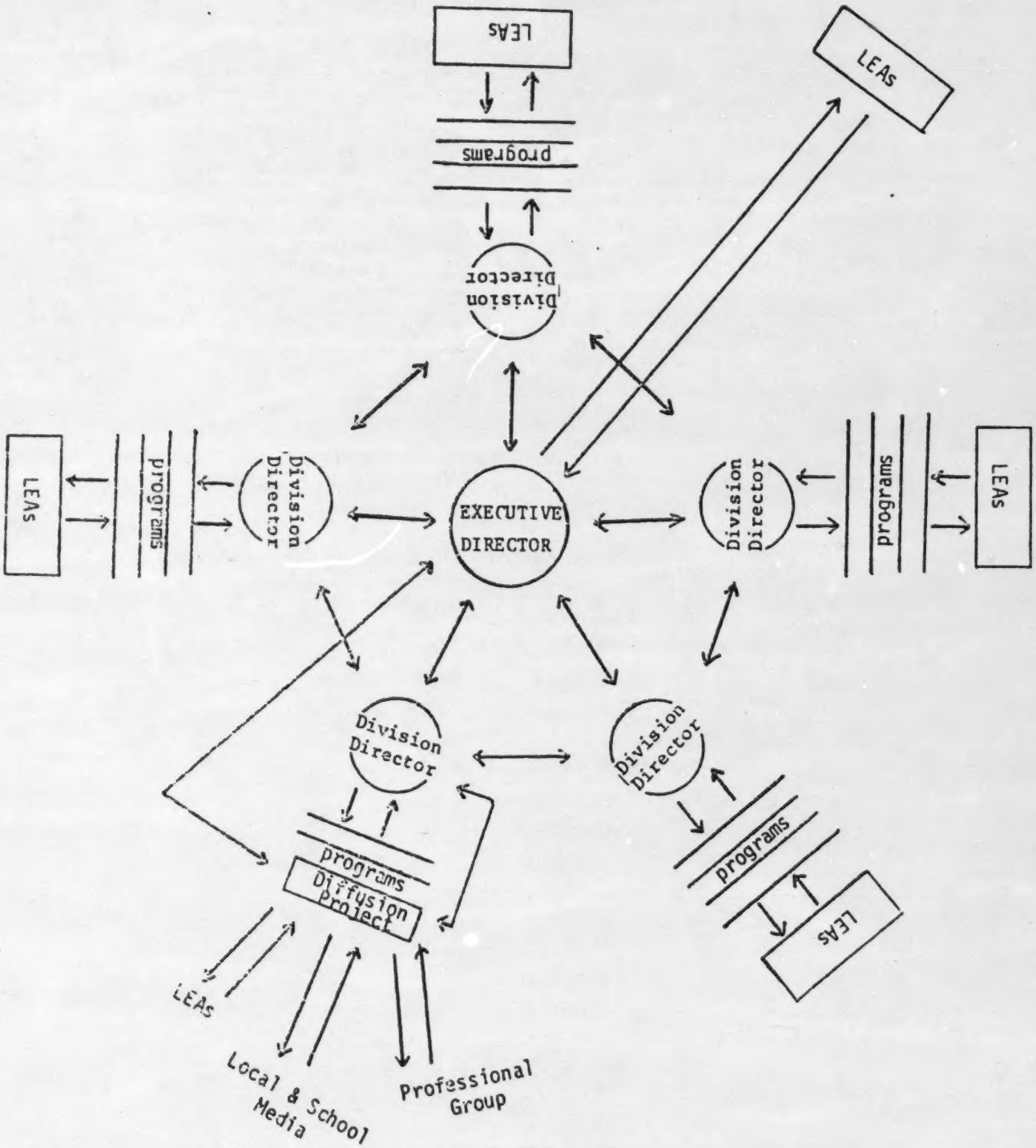
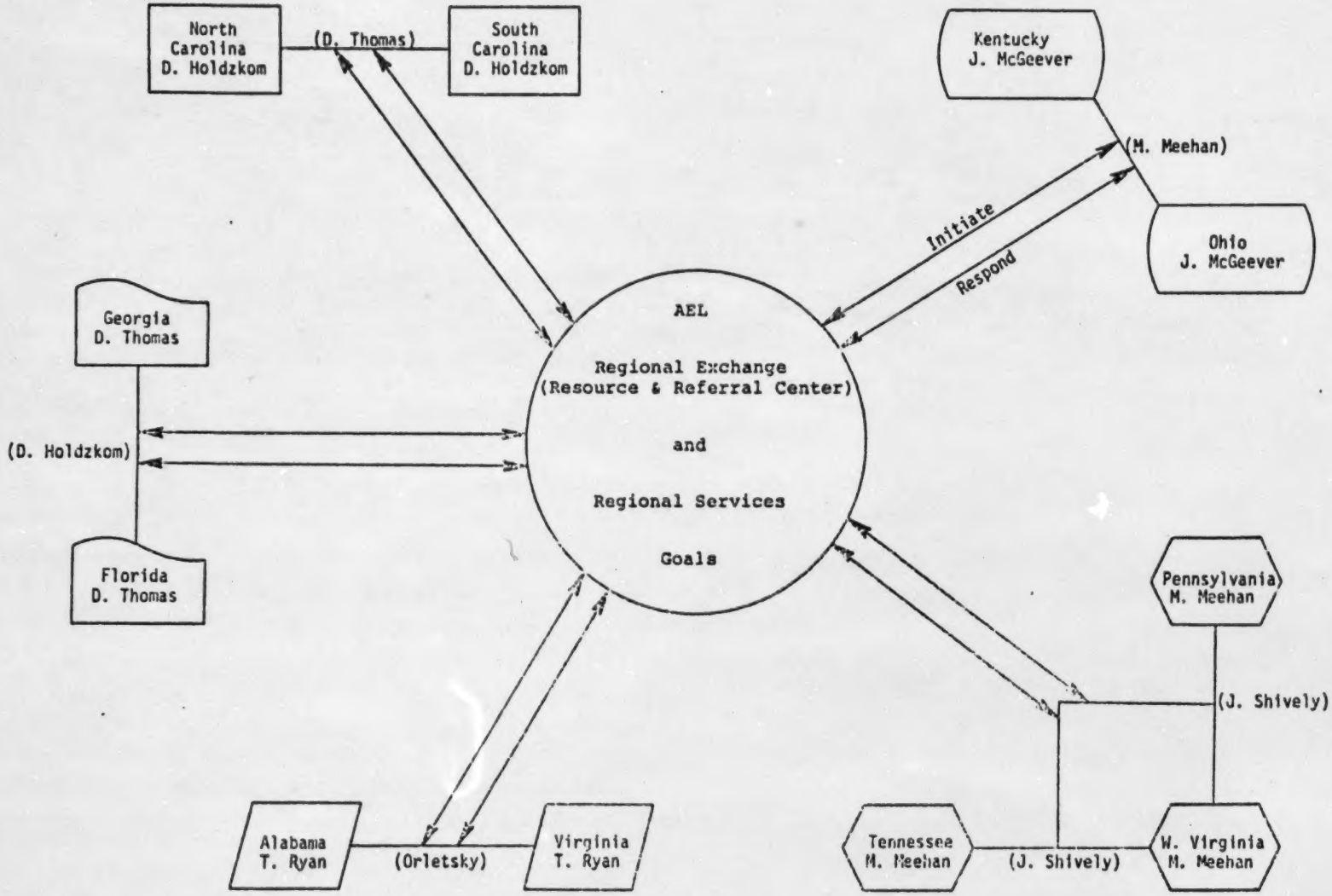
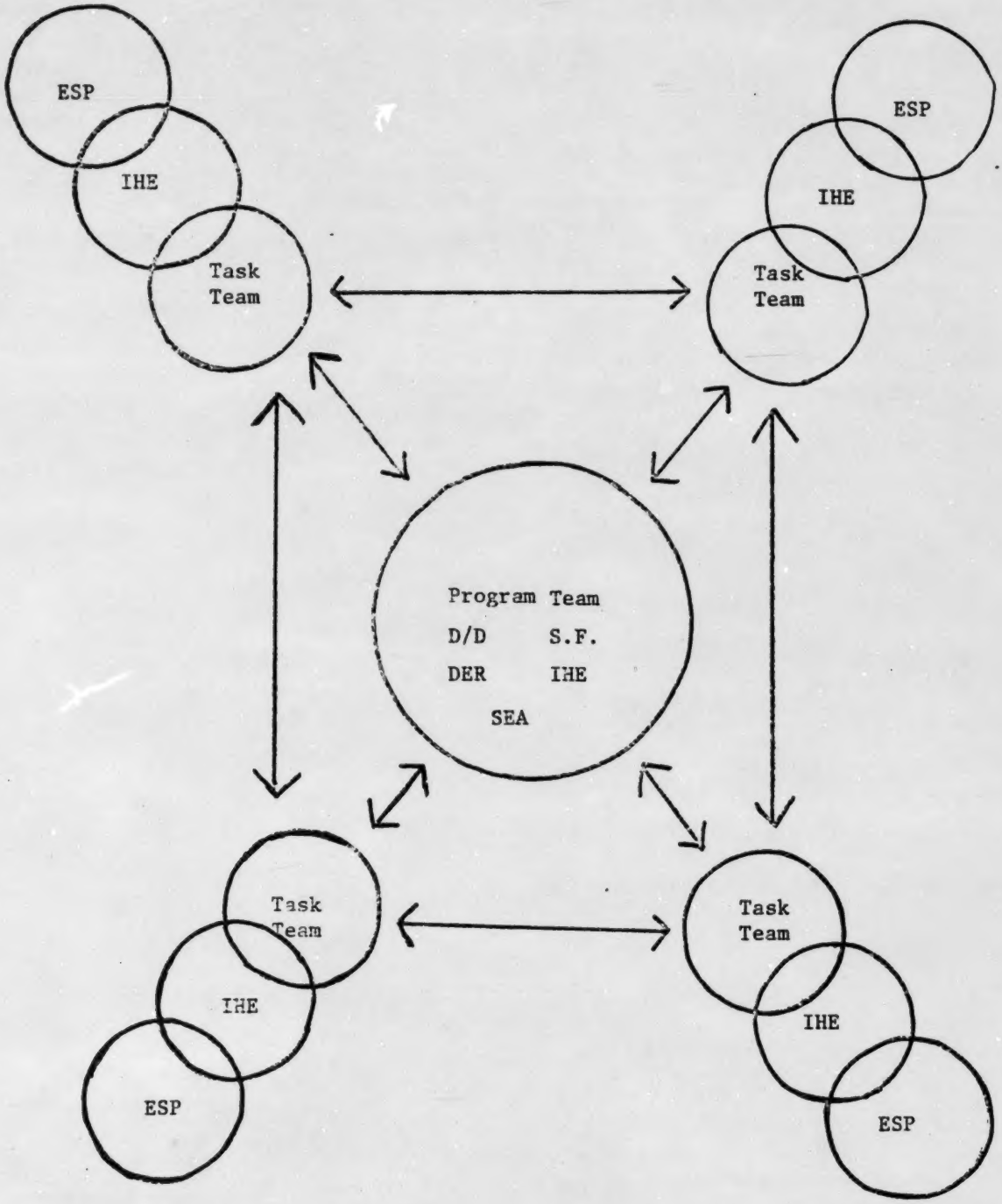


Figure 6. Region One Intra-Agency Dissemination Model (Texas).



( ) = Secondary Person
AEL February 1980

Figure 7. Appalachia Educational Laboratory, Inc. Educational Services Office State Consultant Model.



ESP Education Service Provider
IHE Institution of Higher Education
DER Division of Educational Replication (Department of Education)
SEA State Education Assoc.
D/D Demonstrator/Developer
S.F. State Facilitator

Achilles-McConnell 1980

Figure 8. Expanded Service Linkage Network Model

Summary

There is a large body of known activities, methodologies and strategies for disseminating information. The structures for organizing those activities have led to numerous configurations with differing operation concepts and service delivery modes. Funding sources play a major role in the development of the dissemination configurations. Another major factor in the design of a configuration is the "starting point" of the client. The NDN disseminates to clients who may not know the service exists. That is a contrast to the AEL/SCM which was implemented to meet the expressed needs of knowledgeable clients. Each configuration describes an attempt by the indicator agency to meet its own needs and objectives and the needs and objectives of the clientele. They can only be effective to the extent that each set of needs is addressed.

Technology has the potential to influence greatly the future of dissemination. A recent (9/83) NDN awareness conference used the Hi-net system of Holiday Inns, Inc. to transmit an interactive awareness program to 24 controlled sites in 14 states. (reaching approximately 1150 people). This "conference" was evaluated by participants as highly effective, and it was cost efficient. (Details can be obtained from M. I. McConnell, c/o TSFP, BERS, College of Education, University of Tennessee, Knoxville, TN 37996-3400.)

THE ROLE OF THE IHE IN A PRODUCER-DRIVEN DISSEMINATION SYSTEM*

The role and function of institutions of higher education (IHE) in linking the knowledge user to a knowledge base have been traditional, primarily through teaching activities in pre-service and in-service teacher education. The knowledge base provided by university-based research has been translated from theory into practice by field-initiated programs which in turn provide the dissemination activities.

Antecedents

Contemporary efforts at innovations in education go back at least to the launching of Sputnik and to attacks on the schools led by university critics. University scholars produced new curriculum materials intended to reflect the structure of the disciplines better than the older curricula. Dissemination of these materials was through the traditional modes of publications and workshops held for public school teachers, using the model of university teaching (House, 1979).

The success was limited, and local educators became skeptical of change initiated through scholastic authority. By the mid-sixties, a technological view of curriculum and innovation was being advanced by the advent of Research and Development Centers, ERIC, and the like. The technological approach to dissemination expanded the use of varied communication channels.

The awareness of alternatives (dissemination) was improved, but not the organizational or human ability to implement needed improvements (diffusion). This process became the new focus. Much of the literature indicates that universities remain contributors to outreach activities in support of knowledge utilization. Often this involvement is a consequence of ad hoc consulting activities developed by individual professors, and does not represent any institutional commitment (House, 1979).

Havelock (1977) has commented that in at least one state, professors at IHEs presented a barrier to a systematic development of information networks, which might alter their consulting arrangements. In other universities, there has been institutional commitment to act as change agents in local schools. This involvement may have been through funded efforts, for example, the Teacher Corps or Teacher Centers.

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The growth of producer-driven dissemination systems focuses on an external change agent as a catalyst and resource for educational improvement. Interest from IHEs in this new role has again been on an individual rather than institutional basis. IHEs provide the institutional home for only four of fifty-four SF agencies sponsored by the NDN. Over 250 program D/Ds are approved for dissemination by the JDRP, yet less than four percent have an IHE sponsor.

Individual efforts by SF agencies and D/Ds have resulted in varied interactions with IHEs, specifically:

*locale for awareness conferences;

*training from project staff in LEAs coordinated with IHE to offer on-campus course related to project teaching methods;

*professors designated as certified trainers to serve LEAs;

*research related to program implementation.

In the Fall, 1979, the NDN sponsored a formal effort to encourage IHE interaction by organizing an IHE/NDN task force funded through the Technical Assistance contract. Proposals from this task force and literature on innovation and change provide implications for the future role of IHE in the following areas: research, development, training, technology and evaluation.

Research

Although an obvious area for IHE interface, research requires the highest level of abstraction for those observing or participating in the dissemination process. It appears to be the responsibility of those involved in the producer-driven system to provide the cognitive structure related to the dissemination of innovations in order for IHEs to respond with research. There is a need for more focused studies on the change process, which could be provided not only in contracted research, but also via dissertations.

Studies need to be done to determine the most effective dissemination strategies considering varying communication channels and the role/characteristics of innovation affect their rates of adoption (Rogers and Shoemaker, 1971; Achilles and Norman, 1974). Research is underway to determine the most effective way of eliciting the critical elements of the innovation from the developer. The configuration of the innovation is also critical to our knowledge of implementation and impact assessment (Hall & Loucks, 1976).

The other side of the coin - how one decides to adopt an innovation or change behavior - continues to interest researchers looking at various cognitive styles. Individuals with high association abilities may be able to analyze accurately the relation of an innovation to their own educational problems. Individuals with high differentiation abilities may be more capable of discriminating differences in alternative innovations (Gordon, 1979).

Development

Institutions of higher education have extensive resources to assist dissemination agencies in development of management systems. Because these external change agents often have backgrounds in teaching or instructional supervision, their strengths in dissemination may also mean less successful office management (Paisley, 1979). These developments may include computer programs for management as well as an interactive data base for the dissemination products. In addition, development of process instruments to be used by both external and internal change agents could be strengthened by curriculum management specialists in IHEs.

The institutional commitment to the IHE interface with producer-driven dissemination systems may allow for the developing of models/options for providing professional credit to IHE faculty involved in public service. Identification of inter-or-cross-disciplinary systems (such as, the Southeast Legal Foundation at the University of Texas, Dallas) in IHEs could provide a resource to external change agencies when accompanied by procedures for usage.

Training

One of the easiest access points for IHE interaction with dissemination systems is in the area of training or staff development. Yet even here there are multiple layers for influence:

(1) Small colleges and community/junior colleges are being targeted as potential adopters of higher-education validated programs.

(2) Many exemplary programs have great potential for infusion in basic pre-service curricula.

(3) Dissemination systems such as the NDN are now important contributors to staff development. The NDN trained over 60,000 teachers in 1980. A formal alliance with IHEs could provide course credit for these activities.

(4) Graduate courses for educational leadership should provide knowledge and skills for accessing and utilizing both user-and producer-driven dissemination systems. If the graduate curriculum also includes skills related to a systematic planning model, leadership personnel would be equipped to perform as internal change agents and prepared to accept the future role as external change agents.

(5) Instruction in communications and change processes as related to dissemination and diffusion will equip educational leaders to serve as change agents.

Technology

A relationship with IHEs can provide an important technological resource for partners in dissemination. Specialists in educational media can provide assistance in technical and content factors of AV materials important to

dissemination. IHE association with ETV could open new dissemination and training strategies (with accompanying concerns for research/evaluation). Advances in computer technology could be made available through the IHE from specialists both inside and outside the education community.

Evaluation

Dissemination systems, both agencies and products, require continuing evaluation which can be improved through associations with IHEs. The product/producer-driven system requires the addition of new programs to meet changing clientele needs. The SFs within the NDN are charged with the task of identifying such promising practices and providing technical assistance which can lead to approval by the JDRP. The most appropriate resource for this effort would be a cadre of IHE faculty with basic research/evaluation skills combined with a background in both the JDRP (national) and IVD (state) validation processes.

The basic question of effectiveness of a dissemination system may be adequately addressed by the user community, but once again the diverse resources of IHEs should be developed to provide assistance in cost-benefit analysis, a growing concern of the funding agencies for these activities, and other aspects of operation.

Projections

Those areas of mutual assistance proposed with direct relation to the basic activities of IHES — teaching, research and field service -- will provide the most visible and immediate results. The stimulation of an expanded role for IHEs in a producer-driven dissemination system is itself an innovation. As adopters of the innovation, IHE faculty must also move through the adoption stages: awareness, interest, mental trial, pilot, adoption and integration.

The following are examples of questions that need to be addressed as this emphasis is pursued;

(1) What is the best strategy for creating in IHEs a positive attitude toward the dissemination system?

(2) Is the most appropriate target the individual or the institution? At what stage?

(3) How will the concept of "territory" be a factor for both partners in this new alliance?

(4) How do IHEs improve and renew themselves?

The involvement of IHEs in a system (NDN) that has been primarily oriented to K-12 public education may provide one point for a new focus on cooperation. This would be welcome after a time of conflict, territoriality, and non-cooperation between and among education groups and agencies.

DEVELOPERS/DEMONSTRATORS (D/Ds) AND CERTIFIED TRAINERS AS DISSEMINATORS*

Who says that nothing new is going on in education today? Certainly not anyone aware of the over 200 exemplary programs within the NDN! Innovative projects in such areas as Adult Education, Basic Skills, Bilingual/Migrant Education, Special Education and Special Interests such as arts, communication and technology, just to name a few, have been developed and approved as part of the NDN; they are listed with an accompanying explanation in Programs That Work. The developers of these projects and those who become certified trainers for the projects disseminate information related to them as an integral part of a project's operation -- in other words, they "spread the good news!"

The Office of Education (USOE) of the former DHEW, (currently the Department of Education - ED), created the Dissemination Review Panel in 1972. Representatives from the National Institute of Education (NIE) joined the group in 1975 to create the Joint Dissemination Review Panel (JDRP). This joint ED-NIE panel meets periodically to review locally developed projects to determine if they are of sufficiently high quality to merit wide-spread dissemination. Projects usually are reviewed by the following steps:

(1) Nomination can occur in three ways. Depending on the project's source funding, a project can be nominated by the project's state program office, the project can nominate itself through the state program office, or a project with funding from sources external to education can contact the Director, DER, Department of Education.

(2) Review of the project by the federal program office occurs on recommendation from the state office. The project is reviewed for social fairness of content and procedures, for honesty, completeness, and accuracy of evidence supporting claims of effectiveness.

(3) Preparation of a 10-page project summary according to the JDRP Ideabook and guidelines is next if the project is given the go-ahead.

(4) Review of the summary by the federal program office shows if the evidence presented warrants submission to the JDRP.

(5) JDRP meets whenever three submissions are received so that a federal program office may introduce the program and project staff.

(6) JDRP reviews the submission to find a project either effective and worthy of dissemination or not.

(7) Dissemination. An approved project becomes eligible to apply for dissemination support.

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What does JDRP want to know about your project? Here are some of the main questions.

(1) Has a positive change occurred? What is your evidence of change? (For example, changes in test scores, improved student behavior or attitude, cost savings to the school, changes in attendance records.)

(2) Can the change be attributed to your project rather than to other causes such as normal maturation, regular education programs, or other factors?

(3) Is the change sufficient to be statistically significant?

(4) Is the change eduationally significant? What is the size of the change and what is the importance of the area in which change has occured? Is the cost reasonable, considering the magnitude and area of change?

(5) Has the evidence supporting the project's claims been gathered and interpreted correctly?

(6) Can the project be used in other locations with comparable impact?

NDN project develpers provide individual rules for selecting and certifying trainers for the project. Criteria range in difficulty and duration. Some project developers require that prospective trainers actually use the project with students for an entire year and attend several training and awareness sessions. Others might certify trainers in a 2-day awareness/training session with minimal student contact. There tend to be five stages in the certification process regardless of the time frame:

(1) Attend initial training (awareness)

(2) Implement program (student contact)

(3) Observe and participate with trainers in actual sessions

(4) Assist in training sessions

(5) Conduct a training session. (Become certified if assessed as competent).

JDRP-approved projects are eligible for national dissemination. What is dissemination? Who is responsible for the dissemination? What are the activities in which the disseminators engage? The answers are not simple, but some trends are evolving from the NDN and other teacher-based systems.

In 1976, the Dissemination Advisory Group (DAG), a combination of members of the NIE and USOE proposed a four-level definition of dissemination activities:

Level 1: Spread - the one-way casting out of knowledge in all of its forms: information, products, ideas, and materials; e.g., publications, general mailings, etc.

Level 2: Exchange - the two-way or multi-way flow of information, products, ideas, and materials as to needs, problems and potential solutions; e.g., conferences, site visits, etc.

Level 3: Choice - the facilitation of rational consideration and selection among those ideas, materials, outcomes of research and development, effective educational practices, and other knowledge that can be used for the improvement of education; e.g., traveling exhibits, catalogues comparing alternatives, etc.

Level 4: Implementation - the facilitation of adoption and installation of improvements; e.g., consultation, on-site technical assistance, etc.

Bain and Groseclose (1979) suggest that the DAG definition of dissemination is useful because it incorporates the language of current education legislation and is inclusive. They emphasize the need for practictioner networks. The NDN provides just that by requiring the developers and certified trainers of successful projects to train teachers and other staff members in the adopting schools.

In the producer-driven system, the developers and certified trainers not only disseminate (in the usual sense of the word), they serve as inservice instructors. This extends dissemination into the realm of implementation (that is, diffusion and adoption). The NDN effort trained over 60,000 teachers in 1980.

The findings of research conducted at the University of Southern California reveal that teachers involved in inservice training sessions are more likely to listen to experienced teachers than to other professionals. Teacher ratings of professionals in both the affective and cognitive areas showed significant differences in confidence with respect to sources of educational information. Table 1 presents the rankings by mean scores and standard deviations.

Marshall L. Schmitt, Senior Diffusion Specialist for the U.S. Office of Education analyzed selected dissemination strategies used by D/Ds in the NDN. Data were extracted from final reports submitted by project directors for the school year 1978-79. Schmitt provided the following synthesis of dissemination strategies.

Dissemination information (especially for D/Ds).

1. After receiving a request for information, send out two responses: (1) information requested by the persons, and (2) a response informing the appropriate SF of the person's interest. A local SF follow-up may just trigger an adoption.
2. Mail multiple copies to SFs of awareness brochures, summary of services project can offer to adopters, and other special information, such as the purchase or loan of a film.
3. Send a complete set of program materials to SFs. Potential adopters use these materials by borrowing or by reviewing them at the SF office or resource room.
4. Write a personal letter to SF, focusing on a specific D/D dissemination need. Plan carefully with SF and focus efforts in a specific geographic area (i.e., school district, regional area or State).

TABLE 1

MEAN TEACHER'S CONFIDENCE RATINGS OF INSERVICE PROFESSIONALS FOR AFFECTIVE AND COGNITIVE TEACHING PRACTICES

Affective Ranking	X	S.D.	Cognitive Ranking	X	S.D.
Experienced teacher	3.45	.53	Experienced teacher	3.45	.57
Change agent (innovator)	2.97	.74	Change agent (innovator)	3.26	.70
Experienced professor	2.94	.82	Experienced professor	3.06	.82
Experienced principal	2.62	.81	*Inexperienced professor	2.75	.83
Beginning teacher	2.61	.76	Beginning Teacher	2.74	.72
*School psychologist	2.44	.97	Experienced principal	2.73	.76
Inexperienced principal	2.22	.93	Inexperienced principal	2.57	.92
Inexperienced professor	2.16	.86	School psychologist	1.90	.87
*Child psychiatrist	2.11	1.03	*Publishing company rep.	1.83	.82
Neurologist	1.52	.80	Child psychiatrist	1.63	.89
School social worker	1.44	.76	Neurologist	1.36	1.25
School doctor	1.31	.84	School doctor	1.32	.85
Publishing company rep.	1.24	.83	School social worker	1.14	.83

*Professionals with significant differences between their cognitive and affective ratings.

Vera E. Reilly and Myron H. Dembo: "TEACHERS' VIEWS OF INSERVICE EDUCATION: A QUESTION OF CONFIDENCE", PHI DELTA KAPPAN, October, 1975, p. 126.

5. Target awareness activities in untouched States. Cultivate relationships with SFs. Give special attention to inquiries from States where there are no adoptions.

6. Use personal approach; whenever possible personally meet each SF and LEA personnel at professional conferences.

7. When resources are limited, concentrate awareness conferences on surrounding states; notify various districts in the state of D/D's traveling schedule.

8. Mail general information about your project to specific personnel who are currently working in your subject area.

9. Interface with appropriate agencies outside of ED that have relevance to your subject area, for example, Council of Great City Schools, Center for Urban Environment, etc.

10. Interface with agencies within ED, such as Title I, Career Education, and other programs that have relevance to your subject area. Caution: Do not interface with more than one organization within a funding period.

11. Mail to target populations materials such as, personal letters, brochures, funding announcements, news releases, and sample units.

12. Write an article to be submitted to professional journals in subject area of project.

13. When the sales of your materials are provided by other organizations, provide an automatic information system to obtain addresses. Contact by mail all persons who purchased the materials.

14. Provide workshops at IHEs for potential teachers. Encourage teacher education to utilize program key elements where appropriate in their pre-service curriculum.

15. Contact State and professional organizations for making presentations about your project at their annual conferences. Do this well in advance of the proposed meeting.

16. Make follow-up contacts with letters and/or phone with persons who have expressed interest in the project.

17. Follow-up with personal contact whenever possible, especially when a district expresses an interest in the project.

Achilles and Norman (1974) specifically address dissemination, or the spread of information through largely impersonal channels in relation to communication and change in education. Their Communication/Change Matrix shows dissemination as one of the first steps in educational change and one form of communication. The strategies described by Schmitt fit comfortably in the matrix for the various stages or levels of the change process. These authors indicate that multi-dissemination channels are available and alternatives to traditional ones need to be explored. The NDN certainly has more than a running start on these multi-dissemination channels and an obvious desire to explore alternatives. D/D's and Certified Trainers provide the one-to-one,

face-to-face communication processes that are the link between the widespread dissemination of information and the implementation -- or "putting into practice" -- of new ideas. Thus, the D/Ds and Certified Trainers serve not only as disseminators -- the first level of the change process, but also as demonstrators and the one-to-one linkers needed for diffusion.

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